



STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT
P.O. BOX 621
HONOLULU, HAWAII 96809

STAFF SUBMITTAL

for the meeting of the
COMMISSION ON WATER RESOURCE MANAGEMENT

November 16, 2011
Honolulu, Oahu

Kalaeloa Solar One
APPLICATION FOR A WATER USE PERMIT
KS1 (Well No. 1905-11), TMK 9-1-013:028, WUP No. 908
Future (Industrial) Use for 0.300 mgd
Kapolei Ground Water Management Area, Oahu

APPLICANT:

Kalaeloa Solar One
2660 Waiwai Loop
Honolulu, HI 96819

LANDOWNER:

Department of Hawaiian Home Lands
91-5420 Kapolei Parkway
Kapolei, HI 96707

SUMMARY OF REQUEST:

The applicant is requesting approval of a water use permit for an allocation of 0.300 million gallons per day (mgd) of non-potable caprock ground water from a proposed well to supply power plant make-up cooling water.

LOCATION MAP: See Exhibit 1

BACKGROUND:

On January 18, 2011, a water use permit application was received from Kalaeloa Solar One by the Commission on Water Resource Management (Commission). Additional information regarding the source, use, and notification is provided in Attachment A.

ANALYSIS/ISSUES:

Section 174C-49(a) of the State Water Code establishes seven (7) criteria that must be met to obtain a water use permit. An analysis of the proposed permit in relation to these criteria follows:

(1) Water availability

Through the Hawaii Water Plan, the Commission has adopted 1,000 mg/l as the sustainable yield for the Kapolei Aquifer System Area. In the Ewa Caprock, water use is regulated by maximum chlorides, not to exceed the 1,000 mg/l chloride limit. Individual existing water use permits in this aquifer system area are shown in Exhibit 2.

Reported chlorides are from 325 to 520 mg/l during the period between January 2010 to August 2011 within the Kapolei Ground Water Management Area. Allocated wells reporting pumpage and chloride are below approved limits. The BWS Kapolei Irrigation Wells (WUP 740) have not been used since 2009 due to electrical design problems and demands under WUP 740 wells are being met from the BWS potable water system. The East Kapolei Well (2003-08) has not yet installed a pump to make use of its allocation under WUP 801.

Therefore, water appears to be available to accommodate the proposed use.

(2) Reasonable-beneficial

Section 174C-3 HRS defines "reasonable-beneficial use" is

"...the use of water in such a quantity as is necessary for economic and efficient utilization, for a purpose, and in a manner which is both reasonable and consistent with the state and county land use plans and the public interest".

I. Purpose of Use

The applicant is requesting the use of brackish, non-potable ground water for make-up cooling water. This is considered an industrial use of water. The Declaration of Policy section, §174C-2(c) HRS, states that the Water Code shall be liberally interpreted to obtain maximum beneficial use of the waters of the State for various purposes including industrial uses.

II. Quantity Justification

The applicant is requesting a total of 0.300 mgd for make-up cooling water for the proposed Kalaeloa Solar One power plant.

Other approved water use permits for industrial cooling water for power generation ranges from 3.168 mgd to 14.400 mgd and this application is for much less at 0.003 mgd. Data to estimate comparable duties for power generation (such as gallons/MW) is not readily available.

Water will be recycled via a cooling tower and the make-up water consumption of 0.300 mgd appears to be reasonable.

III. Efficiency of Use

The applicant states that its operations are as water efficient as possible because use of a cooling tower to circulate the cooling water will minimize the requirement for make-up supply.

IV. Analysis of Practical Alternatives

The applicant has identified no alternatives to the proposed use of brackish caprock water. An analysis of each of the alternatives is as follows:

1. **Municipal sources** are not available and would be inappropriate for industrial use.
2. **Treated wastewater reuse** water is reserved for irrigation use.
3. No **ditch systems** are available.
4. **Desalinization** is not necessary for cooling water use.
5. No **surface water** sources are available.

The 2000 Legislature amended the Water Code to include a new section, §174C-51.5 HRS that provides the Commission with the authority to require dual line (potable and non-potable) water supply systems in new industrial and commercial developments located in designated water management areas. In this case, the applicant does not have potable water service and is proposing to install only a single non-potable system. Therefore, this provision does not need to be invoked.

Deep saltwater cooling water was not looked at by the applicant the time of drafting this submittal, though it would probably be more expensive to drill operate deeper saltwater source.

(3) Interference with other existing legal uses

There are 13 wells within 1 mile of the proposed well. Of these, 2 are in use (1805-16 under WUP 750 in the adjacent Malakole GWMA and 1906-07 is a matter of ongoing investigation at Hawaii Raceway Park that may require an after-the-fact WUPA or sealing the well that was previously used for oil recovery mitigation). Use of this applicant's well is not anticipated to significantly impact the other wells, but pump test data will help to identify any potential adverse impacts, primarily chloride increases.

(4) Public interest

Public interest is defined under §174C-2 - Declaration of policy, as follows:

*“(c) The state water code shall be liberally interpreted to obtain maximum beneficial use of the waters of the State for purposes such as domestic uses, aquaculture uses, irrigation and other agricultural uses, power development, and commercial and **industrial** uses. However, adequate provision shall be made for the protection of traditional and customary Hawaiian rights, the protection and procreation of fish and wildlife, the maintenance of proper ecological balance and scenic beauty, and the preservation and enhancement of waters of the State for municipal uses, public recreation, public water supply, agriculture, and navigation. Such objectives are declared to be in the public interest.”*

There were no public objections to this application.

Therefore, this application meets the public interest.

(5) State & county general plans and land use designations

The proposed uses are in the State Urban District, and the county zoning is F-1. The proposed industrial use is consistent with these land use designations.

Normal agency review includes:

- 1) the State's Department of Land and Natural Resources (DLNR) and its State Parks, Aquatic Resources, Historic Preservation, and Land Divisions; the Department of Health (DOH) with its Clean Water, Safe Drinking Water, and Wastewater Branches; the Department of Hawaiian Home Lands (DDHL), and Land Use Commission (LUC); and the Office of Hawaiian Affairs (OHA).
- 2) the Office of the Mayor, Department of Planning and Permitting, and the Board of Water Supply;

The Board of Water Supply has requested that recycled water should be used if it becomes available.

Therefore, this application meets the state & county general plans and land use designations.

(6) County land use plans and policies

Again normal County review includes Office of the Mayor, Department of Planning and Permitting, and the Board of Water Supply. No objections have been made to this industrial use.

Therefore, this application meets the county land use plans and policies.

(7) Interference with Hawaiian home lands rights

All permits are subject to the prior rights of Hawaiian home lands. The Department of Hawaiian Home Lands (DHHL) and the Office of Hawaiian Affairs have reviewed this application and made no comments or objections. Further, standard water use permit conditions 3.g., 6., and 9.f. notify all water use permittees that their permits are subject to and cannot interfere with Hawaiian home land rights.

Therefore, this application will not interfere with Hawaiian home lands rights.

(8) Other issues

1. Chapter 343 – Environmental Assessment (EA) Compliance

EA Triggers

In accordance with §HRS 343-5(a), the applicant's proposed action triggers the need for an EA based on the use of state land and the proposal to build a power generating facility.

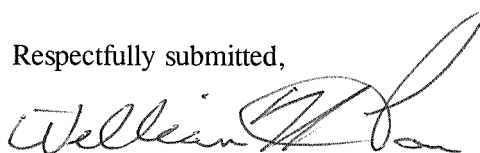
An EA was prepared and the Department of Hawaiian Home Lands issued a Finding of No Significant Impact on September 19, 2011 (see Exhibit 3).

RECOMMENDATION:

Staff recommends that the Commission approve the issuance of water use permit no. 908 to Kalaeloa Solar One for the reasonable and beneficial use of 0.300 million gallons per day of brackish water for industrial use from the KS1 well (State Well No. 1905-11), subject to the standard water use permit conditions listed in Attachment B and the following special conditions:

1. Should an alternate permanent source of water be found for this use, then the Commission reserves the right to revoke this permit, after a hearing.
2. In the event that the tax map key at the location of the water use is changed, the permittee shall notify the Commission in writing of the tax map key change within thirty (30) days after the permittee receives notice of the tax map key change.
3. Standard Condition 16 for a water shortage plan requirement is waived.
4. The permittee shall submit a contingency plan for water use in the event the chloride concentration in the permitted well exceeds the 1,000 mg/l sustainable capacity limit established for Ewa caprock aquifer sources, the permittee shall seek an alternative source of supply. The contingency plan shall be submitted to the Commission within 30 days of the issuance of this permit.

Respectfully submitted,



WILLIAM M. TAM
Deputy Director

Attachments: A (Water Use Permit Detailed Information)
B (Water Use Permit Standard Conditions)

Exhibits: 1 (Location Map)
2 (Existing Water Use Permits)
3 (FONSI)

APPROVED FOR SUBMITTAL:



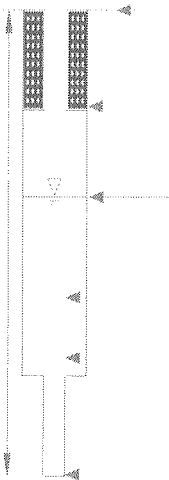
WILLIAM J. AILA, JR.
Chairperson

WATER USE PERMIT DETAILED INFORMATION

Source Information

AQUIFER:	Kapolei System, Ewa Caprock Sector, Oahu
Sustainable Yield:	1,000 mg/l mgd
Existing Water Use Permits:	4 mgd
Available Allocation:	n/a mgd
Total other pending applications:	0 mgd
This application:	0.300 mgd

PROPOSED WELL:	KS1 (Well No. 1905-11)
Location:	Barbers Point NAS, Oahu, TMK: 9-1-013:028
Casing Diameter:	12 in.
<u>Elevations</u> (msl= 0 ft.)	
Water Level:	1.2 ft.
Ground:	46 ft.
Bottom of Solid Casing:	2 ft.
Bottom of Perforated:	-18 ft.
Bottom of Open Hole:	n/a ft.
Total Depth:	64 ft.
Grouted Annulus Depth:	41 ft.
Pump Capacity	500 gpm



Use Information

Quantity Requested:	0.300 gallons per day
Future Type of Water Use:	Industrial
Place of Water Use:	TMK: 9-1-013:028

Nearby Surrounding Wells and Other Registered Ground Water Use

There are 16 other wells within a mile of the well (see Exhibit 1). 6 of these wells are currently in use.

Public Notice

In accordance with HAR §13-171-17, a public notice was published in the Star Advertiser on February 18, 2011 and February 25, 2011 and a copy of the notice was sent to the Office of the Mayor. Copies of the completed application were sent to the Board of Water Supply, Department of Planning and Permitting, Department of Health, Department of Hawaiian Home Lands, Office of Hawaiian Affairs, the various divisions within the Department of Land and Natural Resources, and other interested parties for comments. Written comments and objections to the proposed permit were to be submitted to the Commission by March 14, 2011.

Objections

The public notice specifies that an objector meet the following requirements: (1) state property or other interest in the matter; (2) set forth questions of procedure, fact, law, or policy, to which objections are taken; (3) state all grounds for objections to the proposed permits, (4) provide a copy of the objection letter(s) to the applicant, and (5) submit objections meeting the previous requirements to the Commission by March 14, 2011.

There are no objectors who have property interest within the Kapolei Aquifer System or who will be directly and immediately affected by the proposed water use.

Briefs in Support

Responses to objections, or briefs in support, regarding the application are required to be filed with the Commission ten (10) days after an objection is filed and, presumably, copies are served to the applicant. No briefs in support were filed with the Commission.

STANDARD WATER USE PERMIT CONDITIONS

1. The water described in this water use permit may only be taken from the location described and used for the reasonable beneficial use described at the location described above. Reasonable beneficial uses means "the use of water in such a quantity as is necessary for economic and efficient utilization which is both reasonable and consistent with State and County land use plans and the public interest." (HRS § 174C-3)
2. The right to use ground water is a shared use right.
3. The water use must at all times meet the requirements set forth in HRS § 174C-49(a), which means that it:
 - a. Can be accommodated with the available water source;
 - b. Is a reasonable-beneficial use as defined in HRS § 174C-3;
 - c. Will not interfere with any existing legal use of water;
 - d. Is consistent with the public interest;
 - e. Is consistent with State and County general plans and land use designations;
 - f. Is consistent with County land use plans and policies; and
 - g. Will not interfere with the rights of the Department of Hawaiian Home Lands as provided in section 221 of the Hawaiian Homes Commission Act and HRS § 174C-101(a).
4. The ground water use here must not interfere with surface or other ground water rights or reservations.
5. The ground water use here must not interfere with interim or permanent instream flow standards. If it does, then:
 - a. A separate water use permit for surface water must be obtained in the case an area is also designated as a surface water management area;
 - b. The interim or permanent instream flow standard, as applicable, must be amended.
6. The water use authorized here is subject to the requirements of the Hawaiian Homes Commission Act, as amended, if applicable.
7. The water use permit application and submittal, as amended, approved by the Commission at its November 16, 2011 meeting are incorporated into this permit by reference.
8. Any modification of the permit terms, conditions, or uses may only be made with the express written consent of the Commission.

9. This permit may be modified by the Commission and the amount of water initially granted to the permittee may be reduced if the Commission determines it is necessary to:
- protect the water sources (quantity or quality);
 - meet other legal obligations including other correlative rights;
 - insure adequate conservation measures;
 - require efficiency of water uses;
 - reserve water for future uses, provided that all legal existing uses of water as of June, 1987 shall be protected;
 - meet legal obligations to the Department of Hawaiian Home Lands, if applicable; or
 - carry out such other necessary and proper exercise of the State's and the Commission's police powers under law as may be required.

Prior to any reduction, the Commission shall give notice of its proposed action to the permittee and provide the permittee an opportunity to be heard.

10. An approved flowmeter(s) must be installed to measure monthly withdrawals and a monthly record of withdrawals, salinity, temperature, and pumping times must be kept and reported to the Commission on Water Resource Management on forms provided by the Commission on a monthly basis (attached).
11. This permit shall be subject to the Commission's periodic review of the **Kapolei** Aquifer System's sustainable yield. The amount of water authorized by this permit may be reduced by the Commission if the sustainable yield of the **Kapolei** Aquifer System, or relevant modified aquifer(s), is reduced.
12. A permit may be transferred, in whole or in part, from the permittee to another, if:
- The conditions of use of the permit, including, but not limited to, place, quantity, and purpose of the use, remain the same; and
 - The Commission is informed of the transfer within ninety days.

Failure to inform the department of the transfer invalidates the transfer and constitutes a ground for revocation of the permit. A transfer which involves a change in any condition of the permit, including a change in use covered in HRS § 174C-57, is also invalid and constitutes a ground for revocation.

13. The use(s) authorized by law and by this permit do not constitute ownership rights.
14. The permittee shall request modification of the permit as necessary to comply with all applicable laws, rules, and ordinances which will affect the permittee's water use.

15. The permittee understands that under HRS § 174C-58(4), that partial or total nonuse, for reasons other than conservation, of the water allowed by this permit for a period of four (4) continuous years or more may result in a permanent revocation as to the amount of water not in use. The Commission and the permittee may enter into a written agreement that, for reasons satisfactory to the Commission, any period of nonuse may not apply towards the four-year period. Any period of nonuse which is caused by a declaration of water shortage pursuant to section HRS § 174C-62 shall not apply towards the four-year period of forfeiture.
16. The permittee shall prepare and submit a water shortage plan within 30 days of the issuance of this permit as required by HAR § 13-171-42(c). The permittee's water shortage plan shall identify what the permittee is willing to do should the Commission declare a water shortage in the **Kapolei** Ground Water Management Area.
17. The water use permit shall be subject to the Commission's establishment of instream standards and policies relating to the Stream Protection and Management (SPAM) program, as well as legislative mandates to protect stream resources.
18. Special conditions in the attached cover transmittal letter are incorporated herein by reference.
19. The permittee understands that any willful violation of any of the above conditions or any provisions of HRS § 174C or HAR § 13-171 may result in the suspension or revocation of this permit.

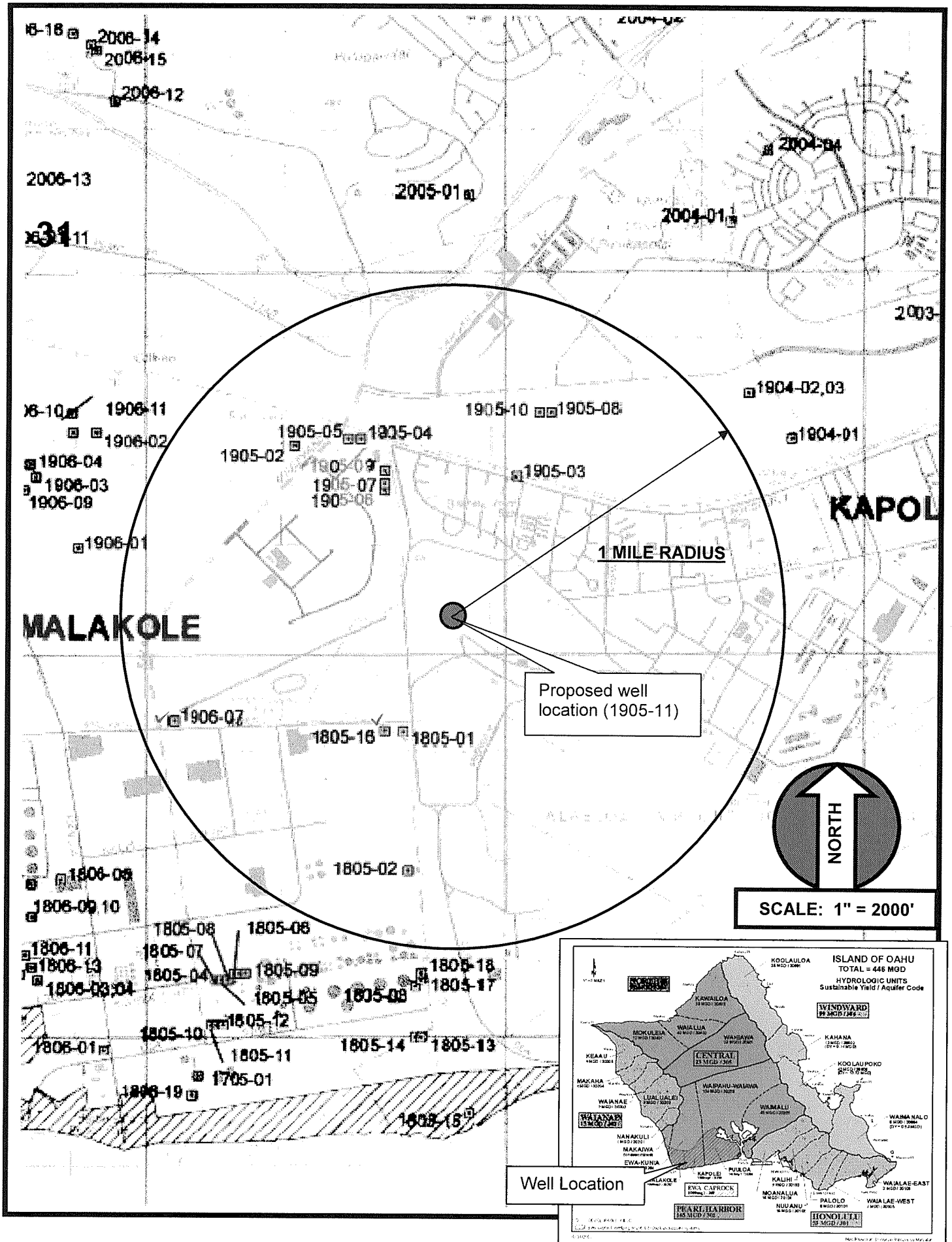


EXHIBIT 1: LOCATION MAP

Aquifer System Water Use Permit Index *(caprock)*

ISLAND OF OAHU

WUP No	Approved	Applicant	Well No.	Well Name	WUP (mgd)	12-MAV* (mgd)
WMA Aquifer System: KAPOLEI				Sustainable Yield =		
740	7/18/2001	HONOLULU BWS	1905-08	KAPOLEI IRR 1	0.302	0.000 (as of 6/1/10)
740	7/18/2001	HONOLULU BWS	1905-10	KAPOLEI IRR 2		
800	7/12/2006	STATE HCDCH	2003-04	KAPOLEI IRR D	0.494	0.250 (est. as of 7/1/11)
800	7/12/2006	STATE HCDCH	2003-07	KAPOLEI IRR C-1		
801	7/12/2006	STATE HCDCH	2003-08	EAST KAPOLEI	0.237	N/R (NO PUMP)
802	7/12/2006	KAPOLEI PEOPLE'S, INC.	2003-01	KAPOLEI G.COURSE A	1.000	0.393 (as of 7/1/11)
802	7/12/2006	KAPOLEI PEOPLE'S, INC.	2003-02	KAPOLEI G.COURSE A		
802	7/12/2006	KAPOLEI PEOPLE'S, INC.	2003-05	KAPOLEI G.COURSE A		

Summary for 'SYSTEM' = KAPOLEI (8 detail records)

Totalling 2.033

* all wells chloride < 520 ppm

NEIL ABERCROMBIE
GOVERNOR
STATE OF HAWAII



STATE OF HAWAII
DEPARTMENT OF HAWAIIAN HOME LANDS

P.O. BOX 1879
HONOLULU, HAWAII 96805

September 19, 2011

ALBERT "ALAPAKI" NAIJALE-A
CHAIRMAN
HAWAIIAN HOMES COMMISSION

MICHELLE K. KAUJANE
DEPUTY TO THE CHAIRMAN

M. WAIJALEALE SARSONA
EXECUTIVE ASSISTANT

Director
Office of Environmental Quality Control
235 South Beretania Street, Suite 702
Honolulu, Hawaii 96813

Aloha Director:

Subject: Finding of No Significant Impact (FONSI),
General Lease No. 293 (GL 293), Kalaeloa Solar One and
Kalaeloa Solar Two, Kalaeloa, Oahu

This is to inform you that the Hawaiian Homes Commission (HHC), at its meeting of September 19, 2011, acting in its capacity as landowner, approved the FONSI for the Final Environmental Assessment submitted by the applicant, Keahole Solar Power, LLC, for its project Kalaeloa Solar One and Two, to develop a solar power production facility.

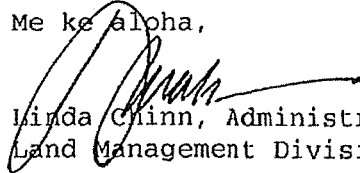
The Department of Hawaiian Home Lands requests that the FONSI for the project be published on the next publication date of the OEQC Bulletin in order to complete the environmental review process.

In order to complete the environmental review requirements, enclosed are the following:

1. Finding of No Significant Impact
2. One copy of the Final Environmental Assessment
3. OEQC Bulletin Publication Form
4. One CD containing all of the above documents

Should you have any questions regarding this memo, please contact Todd Gray, Land Agent, at (808) 620-9460. For specific questions relating to the project, please contact Faith Caplan, AICP, TEC Inc., at (808) 528-1445.

Me ke aloha,


Linda Chinn, Administrator
Land Management Division

enc.

RECEIVED
11 SEP 23 P1:59
OFC. OF ENVIRONMENTAL
QUALITY CONTROL

2011 SEP 28 AM 11:04

EXHIBIT 3: FONSI